IN THE SPECIFICATION:

Amend the paragraph on page 3, lines 6-12, as follows:

a primary gas separation module comprising a membrane which is selectively gas permeable ~~to methane relative~~ to carbon dioxide relative to methane, a feed-retentate chamber within the module on a first side of the membrane, and a permeate chamber within the module on a second side of the membrane, in which the feed-retentate chamber is in fluid communication with the bed of the pressure swing adsorption unit in a manner adapted to permit transfer of the intermediate mixture into the feed-retentate chamber in contact with the first side of the membrane,

Amend the paragraph on page 4, lines 19-22, as follows:

(E) providing a primary gas separation module comprising a membrane which is selectively gas permeable ~~to methane relative~~ to carbon dioxide relative to methane, a feed-retentate chamber within the module on a first side of the membrane, and a permeate chamber within the module on a second side of the membrane,

Amend the paragraph on page 6, lines 24-30, as follows:

The PSA units are typically of conventional construction. They generally are tanks containing beds of adsorbent particles positioned on a porous support such as a wire mesh screen or perforated plate. Gas to be treated in the PSA is conducted ~~throught he support~~ through the support and the interstices between the particles so at to maximize contact with the adsorbent material. Any adsorbent material that is selective to volatile organic compounds can be used. Representative adsorbent particle compositions are activated alumina, silica gel, activated carbon and mixtures thereof.

Amend the paragraphs on page 7, lines 1-24, as follows:

The gas mixture from the PSA unit preferably is further processed through an activated carbon bed **10** to remove most of the small residual amounts of VOC's that survived PSA treatment. Preferably, the activated carbon bed completely removes VOC's from the PSA-treated gas mixture. More preferably, the activated carbon bed combined with the PSA unit is effective to completely remove siloxanes present in the feed gas mixture provided by the waste landfill. Again, multiple activated carbon elements can be used. The intermediate mixture **11** withdrawn from the PSA units thus has a composition which is much reduced in concentration of volatile organic compounds than the feed mixture **3**.

Next the intermediate mixture of gases is introduced into at least one (hereinafter the "primary") gas separation module **12**. This is a device that can be generally described as having a membrane **13** within a case such that the ~~membrane defines to~~ membrane defines two compartments, namely a feed-retentate chamber **16**, and a permeate chamber **17** inside the module. The membrane comprises a gas permeable substance that exhibits a selectivity for methane relative to other components of the intermediate mixture. Usually, the selectively gas permeable substance is less preferentially permeable to methane than the other components. The intermediate gas mixture should be at an elevated pressure in the feed-retentate chamber. This pressure is determined by the discharge pressure of compressor **6** and the pressure drop experienced by the gas as it flows through the coalescing filters, PSA unit and activated carbon filter. Thus there is a driving force sufficient to cause the intermediate mixture to selectively permeate the membrane **13**. Consequently,

a permeate gas **25** having a composition that is depleted in methane relative to the intermediate mixture composition is provided in the permeate chamber **17**. Similarly, a retentate gas **20** forms in the feed-retentate chamber **16**. Because the membrane ~~tends to rejects~~ tends to reject methane, the concentration of methane in the retentate gas is enriched relative to the intermediate mixture composition. Depending on the intended use of the product methane gas, the retentate gas **20** from the primary module may be of sufficient purity that it can be used directly without further purification.

Amend the paragraph bridging pages 7 and 8, as follows:

Preferably, a secondary gas separation module **14** is provided to further "sweeten", *i.e.*, purify, the methane product. This module has a selectively gas permeable membrane **15** which divides the module **14** into a secondary feed-retentate chamber **18** and a secondary permeate chamber **19**. The retentate gas **20** from the primary module **12** is introduced into the secondary feed-retentate chamber **18** where it contacts the membrane **15**. Methane is again rejected by the membrane so that a secondary ~~retentate gas **21**~~ retentate gas **30** of higher methane concentration is produced. This product is usually of adequate quality for consumption as a process feedstock or a combustible fuel. Additional separation stages may be utilized as the need arises.

Amend the paragraph on page 8, lines 14-23, as follows:

When the PSA unit status is switched from active (*i.e.*, available to, or in process of adsorbing VOC from the feed ~~mixture, to~~ mixture), to deactivate (*i.e.*, ready to be, or in process of being regenerated), the particles have VOC adsorbed on them. Until these adsorbed VOC's are removed, the particles

are unable to adsorb more and the separation of the VOC's from the feed mixture ceases to occur. The VOC's are removed from the particles by providing a driving force to desorb the VOC's. The regeneration step of the pressure swing adsorption process involves exposing the adsorbent particles in the bed to a low pressure atmosphere having a low concentration of VOC's. This invention provides that the regenerating atmosphere is provided by the returning permeate gas **25**, as mentioned above.

Amend the paragraph on page 9, lines 10-29, as follows:

In a typical installation of the present invention at a solid waste landfill site, the landfill can be expected to generate about 5 million standard (*i.e.*, at 0°C temperature and 1 atmosphere pressure) cubic feet ("SCF") per day of exhaust gas **3**. This landfill exhaust gas can have a composition about as follows: 50 % methane, 44 % carbon dioxide, 5 % nitrogen, 1 % oxygen, 50 parts per million ("ppm") hydrogen sulfide, 200 ppm VOC's and a saturated amount of water vapor. Gas mixture composition percentages herein are on a volume basis unless specified otherwise. Compressor **6** would thus be sized to compress about 7.2 million SCF per day from about atmospheric to 200 psi pressure. The approximately 290 million BTU per day of energy consumed by the compressor can be provided by the gas product **30** of the process. Substantially all of the VOC's are adsorbed by the PSA unit and the activated carbon bed. Thus the retentate gas product of the primary membrane separation stage ~~**20 should have**~~ **12** should have a composition of approximately the following concentrations: 75% methane, 20 % carbon dioxide, 4 % nitrogen, 1 % oxygen, 50 parts per million ("ppm") hydrogen sulfide. The primary permeate gas will thus be about 2.3 million SCF per day and have a composition of approximately the

following concentrations: 90 % carbon dioxide, 8 % methane and 2 % nitrogen and oxygen combined. Fuel for the compressor consumes about 0.34 million SCF per day of retentate gas. The balance of the retentate gas at about 100 psig should provide about 2.4 million SCF per day of product having about 85 % methane, less than about 5 ppm of hydrogen sulfide and less than 1 % water vapor.

Amend the paragraph on page 11, lines 7-17, as follows:

In typical operation, the feed gas **7** to an adsorber is at about 200 psig pressure and about 45°C. The feed gas is water saturated and is composed of about 44% carbon dioxide, 50 % methane, 5 % air (*i.e.*, nitrogen and oxygen), about 100 ppm hydrogen sulfide and about 200 ppm VOC's. Typical VOC's in the feed ~~mixture are Ethylbenzene~~ mixture are ethylbenzene, toluene and xylene. The feed gas is stripped substantially completely of VOC's by passing through aluminum oxide adsorbent particles in a vertically oriented cylindrical. To regenerate the bed after the adsorbent particles become saturated with VOC's, a flow of primary membrane module permeate gas at about 5 psig and 45°C is utilized. The permeate is about 90 % carbon dioxide, about 8 % methane, about 2% air, about 2 times the concentrations of water and hydrogen sulfide present in the mixture and substantially no VOC's.